

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/549,528
				Filing Date	September 19, 2005
				First Named Inventor	DeFrees, Shawn
				Group Art Unit	1651
				Examiner Name	Hanley, Susan Marie
Sheet	1	of	7	Attorney Docket Number	40853-01-5126-US

U.S. PATENT DOCUMENTS				
Exr initials	U.S. Patent Document		Name of Inventor or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
	Number	Kind Code (if known)		
	2002/0137134	A1	Gerngross et al.	Sept. 26, 2002
	2002/0150981	A1	Canfield	Oct. 17, 2002
	2002/0168323	A1	Gonda et al.	Nov. 14, 2002
	2003/0027257	A1	Iatrou et al.	Feb. 6, 2003
	2004/0136955	A1	Barker	July 15, 2004
	2004/0137557	A1	DeFrees et al.	July 15, 2004
	4,055,635		Green et al.	Oct. 25, 1977
	4,088,538		Schneider	May 9, 1978
	4,179,337		Davis et al.	Dec. 18, 1979
	4,385,260		Watts et al.	May 24, 1983
	4,412,989		Iwashita et al.	Nov. 1, 1983
	4,414,147		Kilbanov	Nov. 8, 1983
	4,496,689		Mitra	Jan. 29, 1985
	4,565,653		Ives et al.	Jan. 21, 1986
	4,806,595		Noishiki et al.	Feb. 21, 1989
	4,925,796		Bergh et al.	May 15, 1999
	5,153,265		Shadle, et al.	June 10, 1992
	5,154,924		Friden	Oct. 13, 1992
	5,169,933		Anderson et al.	Dec. 8, 1992
	5,182,107		Friden	Jan. 26, 1993
	5,346,696		Kim, et al.	Sept. 13, 1994
	5,352,670		Venot	Oct. 4, 1994
	5,369,017		Wong, et al.	Nov. 29, 1994
	5,374,541		Wong	Dec. 20, 1994
	5,405,753		Brossmer	April 11, 1995
	5,432,059		Bean	July 11, 1995
	5,492,841		Craig	Feb. 20, 1996
	5,527,527		Friden	June 18, 1996
	5,545,553		Gotschlich	Aug. 13, 1996
	5,614,184		Sytkowski et al.	Mar. 25, 1997
	5,621,039		Hallahan et al.	April 15, 1997
	5,672,683		Friden et al.	Sept. 30, 1997
	5,716,812		Withers et al.	Feb. 10, 1998
	5,728,554		Bayer et al.	Mar. 17, 1998
	5,833,988		Friden	Nov. 10, 1998
	5,834,251		Maras et al.	Nov. 10, 1998
	5,849,535	A	Cunningham et al.	Dec. 15, 1998
	5,876,980		DeFrees et al.	Mar. 2, 1999
	5,922,577		DeFrees et al.	July 13, 1999

Examiner Signature	Date Considered
---------------------------	------------------------

¹ EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to prepare this form should be sent to the Assistant Commissioner for Patents, Washington, DC 20231. **ATTORNEYS ONLY: THIS FORM IS TO BE COMPLETED BY THE APPLICANT OR ATTORNEY. IT IS NOT TO BE COMPLETED BY THE EXAMINER.**

DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	2	of	7
-------	---	----	---

Application Number	10/549,528
Filing Date	September 19, 2005
First Named Inventor	DeFrees, Shawn
Group Art Unit	1651
Examiner Name	Hanley, Susan Marie
Attorney Docket Number	40853-01-5126-US

	5,932,462		Harris et al.	Aug. 3, 1999
	5,945,314		Prieto, et al.	Aug. 31, 1999
	5,969,040		Hallahan et al.	Oct. 19, 1999
	5,977,307		Friden	Nov. 2, 1999
	6,015,555		Friden	Jan. 18, 2000
	6,030,815		DeFrees et al.	Feb. 29, 2000
	6,037,452		Minamino et al.	Mar. 14, 2000
	6,057,292		Cunningham et al.	May 2, 2000
	6,075,134		Bertozzi et al.	June 13, 2000
	6,087,325	A	Meers et al.	July 11, 2000
	6,096,512		Elhammer, et al.	Aug. 1, 2000
	6,166,183		Ishikawa et al.	Dec. 26, 2000
	6,183,738		Clark	Feb. 6, 2001
	6,261,805	B1	Wood	July 17, 2001
	6,362,254	A	Harris et al.	Mar. 16, 2002
	6,440,703	B1	DeFrees	Aug. 27, 2002
	6,458,937		Bertozzi et al.	Oct. 1, 2002
	6,555,346	B1	Kretzdom et al.	April 29, 2003
	6,692,931		Reutter, et al.	Feb. 17, 2004
	7,202,206		Papadimitriou	Apr. 10, 2007

FOREIGN PATENT DOCUMENTS

Exr Initials	Country Code	Foreign Patent Document Number	Kind Code (if known)	Name of Inventor or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T ₁
		EP 0474313	A	Ingenieria Genetica y Biotechno	Mar. 11, 1992	
		EP 0585109	A	Taniguchi Naoyuki	Mar. 2, 1994	
		EP 0605963	A2	Wright	July 13, 1994	
		WO 87/00056		Katre et al.	Jan. 15, 1987	
		WO 87/05330	A1	Bergh et al.	July 23, 1998	
		WO 89/10134	A1	Pardridge	Nov. 2, 1989	
		WO 90/07572		Shak	July 12, 1990	
		WO 92/18135		Bednarski et al.	May 15, 1993	
		WO 94/05332		M'Timkulu	March 17, 1994	
		WO 94/15625	A1	Hallahan	July 21, 1994	
		WO 95/02421	A1	Friden	Jan. 26, 1995	
		WO 96/32491		DeFrees et al.	Oct. 17, 1996	
		WO 96/40731		Bona et al.	June 6, 1996	
		WO 97/05330		Wasser	Feb. 13, 1997	
		WO 98/31826		Paulson et al.	July 23, 1998	
		WO 98/05363		Wei	Feb. 12, 1998	
		WO 98/58964		Raju	Dec. 30, 1998	
		WO 99/00150	A2	Pardridge	Jan. 7, 1999	
		WO 99/22764	A1	Raju	May 14, 1999	
		WO 00/23114		Biogen, et al.	April 27, 2000	
		WO 00/65087		Das, et al.	Nov. 2, 2000	
		WO 01/49830	A2	Okkeis et al.	July 12, 2001	

Examiner Signature	Date Considered
--------------------	-----------------

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TH/

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	3	of	7	Application Number	10/549,528
				Filing Date	September 19, 2005
				First Named Inventor	DeFrees, Shawn
				Group Art Unit	1651
				Examiner Name	Hanley, Susan Marie
				Attorney Docket Number	40853-01-5126-US

	WO 01/58935	A2	Andersen, et al.	Aug. 16, 2001	
	WO 01/60411	A1	Kondo	Aug. 23, 2001	
	WO 02/02597	A2	Okkels et al.	Jan. 10, 2002	
	WO 02/02764	A2	Nelstuen, Gary L.	Oct. 1, 2002	
	WO 02/74806	A2	Rasmussen et al.	Sept. 26, 2002	
	WO 02/13843	A2	Gabathuler et al.	Feb. 21, 2002	
	WO 02/13873	A1	Gabathuler et al.	Feb. 21, 2002	
	WO 03/17949	A2	Neose Technologies, Inc.	Mar. 6, 2003	
	WO 03/31464	A2	Neose Technologies, Inc.	April 17, 2003	
	WO 04/99231	A2	DeFrees et al.	Nov. 18, 2004	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Exr Initials	Include Name of Author (in CAPITAL LETTERS); title of the article (where appropriate); title of the item (book, magazine, journal, serial, symposium, catalog, etc.); date, page(s), volume-issue number(s), publisher, city and/or country where published	T ₁
	Abeijon et al., 1986, J. Biol. Chem. 261(24):11374-11377	
	Abuchowski et al., 1977, J. Biol. Chem. 252:3582-3586	
	Abuchowski et al., 1984, Cancer Biochem. Biophys. 7:175-186	
	Abuchowski et al., 1977, J. Biol. Chem. 252:3578-3581	
	Ailor et al., 2000, Glycobiology 10:837-847	
	Allegre et al., 2006, J. Membrane Science 269:109-117	
	Altmann et al., 1999, Glycoconjugate J. 16:109-123	
	Aplin et al., 1981, CRC Crit Rev. Biochem. 259-306	
	Beauchamp et al., 1983, Anal Biochem. 131:25-33	
	Berger et al., 1986, Blood 71:1641-1647	
	Berg-Fassman et al. 1993, J. Biol. Chem. 268:14861-14866	
	Bhadra et al., 2002, Pharmazie 57:5-29	
	Bhatia et al., 1989, Anal. Biochem. 178:408-413	
	Bickel et al., 2001, Adv. Drug Deliv. Rev. 46:247-279	
	Bjoern, et al., 1992, J. Biol. Chem., 266(17):11051-11057	
	Boccu et al., 1983, Z. Naturforsch 38C:94-99	
	Boime et al., 1995, Endocrinology 136:2635-2640	
	Boissel et al., 1993, J. Biol. Chem. 268:15983-15993	
	Bouizar et al., 1986, Eur. J. Biochem. 155:141-147	
	Boyd et al., 1995, Mol. Immunol. 32:1311-1318	
	Browning et al., 1989, J. Immunol. 143:1859-1867	
	Bückmann et al., 1981, Makromol. Chem. 182:1379-1384	
	Burns et al., 2002, Blood 99:4400-4405	
	Busterbosch et al., 1996, Eur. J. Biochem. 237:344-349	
	Butnev et al., 1998, Biology of Reproduction 58:458-469	
	Byun et al., 1992, ASAIO Journal M649-M653	
	Casares et al., 2001, Nature Biotech 19:142-147	
	Chaffee et al., 1992, J. Clin. Invest 89:1643-1651	
	Charter et al., 2000, Glycobiology 10:1049-1056	
	Chern et al., 1991, Eur. J. Biochem. 202:225-229	

Examiner Signature	Date Considered
-----------------------	--------------------

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TH/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Application Number	10/549,528	
			Filing Date	September 19, 2005	
			First Named Inventor	DeFrees, Shawn	
			Group Art Unit	1651	
			Examiner Name	Hanley, Susan Marie	
			Attorney Docket Number	40853-01-5126-US	
Sheet	4	of	7		

Chiba et al., 1995, Biochem J. 308:405-409	
Chrisey et al., 1996, Nucleic Acids Res. 24:3031-3039	
Clark et al., 1996, J. Biol. Chem. 271(36):21969-21977	
Cointe et al., 2000, Glycobiology, 10(5):511-519	
Conradt et al., 1987, J. Biol. Chem. 262:14600-14605	
Cope et al., 1991, Molecular Microbiology 5(5):1113-1124	
Copeland, Robert A., 2000, Enzymes, Second Edition, 146-150	
Crout et al., 1998, Curr. Opin. Chem. Biol. 2:98-111	
DeFrees, 2006, Glycobiology 16:833-843	
Delgado et al., 1992, Critical Reviews in Therapeutic 9:249-304	
Delgado et al., 1990, Biotechnol. Appl. Biochem. 12:119-128	
Detty et al., 1982, J. Org. Chem. 47:5416-5418	
Douglas, et al., 1991, J. Am. Chem. Soc., 113:5095-5097	
Dunn et al., 1991, Eds. Polymeric Drugs and Drug Delivery Systems, ACS Symposium Series Vol. 469, American Chemical Society, Washington D.C.	
Durieux, et al., 2001, Tetrahedron Letters, 42:2297-2299	
Dwek et al., 1995, J. Anat. 187:279-292	
Eavarone et al., 2000, J. Biomed Mater. Res. 51:10-14	
Fan et al., 1997, J. Biol. Chem. 272(43):27058-27064	
Fibi et al., 1995, Cells Blood 85:1229-1236	
Fischer et al., 1998, Thrombosis Research 89:147-150	
Flynn et al., 2000, Curr. Opin. Oncol. 12:574-581	
Garnett et al., 2002, Advanced Drug Delivery Reviews 53:171-216	
Gatot, et al., 1998, J. Biol. Chem., 273(21):12870-12880	
Gillis et al., 1988, Behring Inst. Mitt. August 83:1-7	
Ginns, Dr. Edward, PEG Glucocerebrosidase, Internet page from www.gaucher.org.uk/peg2.prg, printed June 21, 2002	
Gotschlich, Emil C., 1994, J. Exp. Med., Coden: Jemeav; ISSN: 0022-1007, 180(6):2181-90	
Grabenhorst, et al., 1993, Euro. J. Biochem., 215:189-197	
Grodberg et al., 1993, Eur. J. Biochem. 218:597-601	
Gross, H.J., 1992, Eur. J. Biochem. 203(1-2):269-275	
Hall et al., 2001, Methods in Molecular Biology 166:139-154	
Haneda et al., Carbohydr. Res. 292:61-70	
Hang et al., 2001, J. Am. Chem. Soc. 123:1242-1243	
Harris, 1985, Macromol. Chem. Phys. C25: 325-373	
Harris et al., 2003, Nature Reviews Drug Discovery, 2:214-221	
Hayes et al., 1993, J. Biol. Chem. 268(22):16170-16178	
Hellstrom et al., 2001, Methods in Molecular Biology 166:3-16	
Hermanson et al., 1992, Immobilized Affinity Ligand Techniques, Academic Press	
Hermanson, 1996, Bioconjugate Techniques, Academic Press, San Diego	
Hermentin, et al., 1996, Glycobiology 6(2):217-230	
Hills et al., 2002, American Biotechnology Laboratory, 20(11):30	
Hollister et al., 2001, Glycobiology 11:1-19	
Hounsell et al., 1996, Glycoconj. J. 13:19-26	
Examiner Signature	Date Considered

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TH/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/549,528
				Filing Date	September 19, 2005
				First Named Inventor	DeFrees, Shawn
				Group Art Unit	1651
				Examiner Name	Hanley, Susan Marie
Sheet	5	of	7	Attorney Docket Number	40853-01-5126-US

Ichikawa et al., 1992, J. Am. Chem. Soc. 114:9283-9298	
Inoue et al., 1995, Biotechnology Annual Review 1:297-313	
Ito et al., 1993, Pure & Appl. Chem. 65(4):753-762	
Jackson et al., 1987, Anal. Biochem. 165:114-127	
Jarvis et al., 1998, Curr. Opin. Biotechnol. 9:528-533	
Joppich et al., 1979, Makromol Chem. 180:1381-1384	
Joshi et al., 1990, J. Biol. Chem. 265:14518-14525	
Jung et al., 1983, Biochem. Biophys. Acta, 761:152-162	
Kalsner et al., 1995, Glycoconj. J. 12:360-370	
Kasina et al., 1998 Bioconjugate Chem., 9:108-117	
Katre et al., 1987, Proc. Natl. Acad. Sci. U.S.A. 84:1487-1491	
Keppler et al., 2001, Glycobiology 11:11R-18R	
Kitamura et al., 1990, Biochem. Biophys. Res. Commun. 28:1387-1394	
Kitamura et al., 1991, Cancer Res. 51:4310-4315	
Kodama et al., 1993, Tetrahedron Lett. 34:6419-6422	
Koeller et al., 2000, Nature Biotechnology 18: 835-841	
Koeller et al., 2001, Nature, 409:232-240	
Koide et al., 1983, Biochem Biophys. Res. Commun. 111:659-667	
Kreitmman 2001, Current Pharmaceutical Biotechnology 2:313-325	
Kuhn, et al., 1995, J. Biol. Chem. 270(49):29493-29497	
Lai et al., 1986, J. Biol. Chem. 261:3116-3121	
Lee-Huang et al., 1984, Proc. Natl. Acad. Sci. U.S.A. 81:2708-2712	
Lee et al., 1989, Biochemistry 28:1856-1861	
Leung, S., 1995, J. Immunology, 154:5919-5926	
Li et al., 2002, Trends in Pharmacological Sciences 23:206-209	
Li et al., 2002, Medicinal Research Reviews 22:225-250	
Liu et al., 2002, 1996, Chem. Eur. J. 2:1359-1362	
Long et al., 2006, Experimental Hematology 34:697-704	
Lord et al., 2001, Clin. Cancer Res. 7:2085-2090	
Lougheed et al., 1999, J. Biol. Chem. 274:37717-37722	
Luckow et al., 1993, Curr. Opin. Biotechnol 4:584-572	
Lund et al., 1995, FASEB J. 9:115-119	
Lund et al., 1996, J. Immunol. 157:4963-4969	
Mahal et al., 1997, Science 276:1125-1128	
Maranga et al., 2003, Biotechnology and Bioengineering 84(2):245-253	
Maras et al., 2000, Molecular cloning and enzymatic characterization of a Trichoderma reesei, 2- α -D-mannosidase, 77:255-263	
Miller et al., 1993, Curr. Opin. Genet. Dev. 3:97-101	
Min et al., 1996, Endocr. J. 43:585-593	
Mistry et al., 1996, Lancet 348:1555-1559	
Morimoto et al., 1996, Glycoconjugate J. 13:1013-1020	
Nilsson et al., 1984, Methods Enzymol. 104:56-69	
O'Connell et al., 1992, J. Biol. Chem. 267:25010-25018	

Examiner Signature	Date Considered
-------------------------------	----------------------------

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TH/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/549,528		
		Filing Date	September 19, 2005		
		First Named Inventor	DeFrees, Shawn		
		Group Art Unit	1651		
		Examiner Name	Hanley, Susan Marie		
Sheet	6	of	7	Attorney Docket Number	40853-01-5126-US

Oetke et al., 2002, J. Biol. Chem. 277:6688-6695	
Olson et al., 1999, J. Biol. Chem. 274:29889-29896	
Palacpac et al., 1999, PNAS USA 96:4692-4697	
Park et al., 1986, J. Biol. Chem. 261:205-210	
Paulson et al., 1997, J. Biol. Chem. 272:8624-8628	
Plummer et al., 1995, J. Biol. Chem. 270(22):13192-13196	
PNGase-F Amidase Sequence from F. Meningosepticum (Registry numbers 128688-70-0)	
PNGase-F Amidase Sequence from F. Meningosepticum (Registry numbers 128688-71-1)	
Pyatak et al., 1980, Res. Commun. Chem. Pathol Pharmacol 29:113-127	
Rabouille et al., 1999, J. Cell. Biol. 112:3319-3330	
Reff et al., 2002, Cancer Control 9:152-166	
Rosenthal, et al., 1994, Methods Enzymol. 235:253-285	
Sadler et al., 1982, Methods in Enzymology 83:458-514	
Saneyoshi et al., 2001, Biology of Reproduction 65:1686-1690	
Saxon et al., 2000, Science 287:2007-2010	
Schwientek et al., 1994, Gene 145:299-303	
Scouten 1987, Methods in Enzymology 135:30-65	
Shah et al., 1996, J. Pharm. Sci. 85:1306-1311	
Shapiro et al., 2005, B. Biochemistry 105:518-525	
Singh et al., 1996, Chem. Commun. 1996:993-994	
Sinha et al., 1980, Infection and Immunity 29(3):914-925	
Song et al., 2002, J. Pharmacol. Exp. Ther. 301:605-610	
Srinivasachar et al., 1989, Biochemistry 28:2501-2509	
Stephens et al., 1983, European J. of Biochem., 135(3):519-27	
Stephens et al., 1983, European J. of Biochem., 133(3):481-9	
Stephens et al., 1983, European J. of Biochem., 133(1):155-62	
Takane et al., 2000, J. Pharmacology and Experimental Therapeutics 294:746-752	
Takeda et al., 1995, Trends Biochem. Sci. 20:367-371	
Takeuchi, et al., 1990, The Journal of Biological Chemistry, 265(21): 12127-12130	
Tanner et al., 1987, Biochim. Biophys. Acta., 906:81-91	
Taylor et al., 1991, Protein Immobilization Fundamentals and Applications, Manual	
Thotakura et al., 1987, Meth Enzymol 138: 350-359	
Tsuboi et al., 2000 Archives of Biochemistry and Biophysics 374:100-106	
Tuddenham, E., 2002, Nature 419:23-24	
Udenfriend et al., 1995, Ann. Rev. Biochem. 64:563-591	
Ulloa-Aguirre et al., 1999, Role of Glycosylation in Function of Follicle-Stimulating Hormone, Endocrine 11:205-215	
Ulludag et al., 2002, Biotechnol. Prog. 18:604-611	
Urdal et al, 1984, J. Chromatog, 296:171-179	
Van Berkei et al., 1996, Biochem J. 319:117-122	
Veronese et al., 1985, Appl. Biochem. Biotech. 11:141-152	
Vocadlo et al., 2000, In Carbohydrate Chemistry and Biology, Vol. 2	

Examiner Signature	Date Considered
---------------------------	------------------------

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TH/

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	7	of	7	Application Number	10/549,528
				Filing Date	September 19, 2005
				First Named Inventor	DeFrees, Shawn
				Group Art Unit	1651
				Examiner Name	Hanley, Susan Marie
				Attorney Docket Number	40863-01-5126-US

Vyas et al., 2001, Crit. Rev. Ther. Drug Carrier Syst. 18:1-76	
Wang et al., 1996, Tetrahedron Lett. 37:1975-1978	
Wang, M., 1998, Protein Engineering 11(12):1277-1283	
Wellhoner et al., 1991, J. Biol. Chem. 226:4309-4314	
Witte K. et al., 1997, J. Am. Chem. Soc. 119:2114-2118	
Woghiren et al., 1993, Bioconjugate Chem. 4:314-318	
Wong et al., 1992, Enzyme Microb. Technol. 14:866-874	
Wong et al., 1996, Biotechnology and Bioengineering 49:659-666	
Woods et al., 1989, Eur. J. Cell. Biol. 50:132-143	
Wright et al., 1998, J. Immunol. 160:3393-3402	
Wu et al., 2002, J. Drug targeting 10:239-245	
Xing et al., 1998, Biochem. J. 336:667-673	
Yamamoto et al., 1998, Carbohydr. Res. 305:415-422	
Yarema et al., 1998, J. Biol. Chem. 47:31168-31179	
Yoshida et al., 1999, Glycobiology 9:53-58	
Yoshitake et al., 1985, Biochemistry 24:3736-3750	
Zalipsky 1995, Bioconjugate Chem. 6:150-165	
Zalipsky et al., 1992, Poly (ethylene glycol) Chemistry: Biotechnical and Biomedical Applications 347-370	
Zheng et al., 1999, Biotechnology and Bioengineering 65(5):600-604	
Zhou, et al., 1994, Mol. Microbiol. 14(4):609-618	

1-SF/7575701.1

Examiner Signature	/Thomas Heard/	Date Considered	03/18/2008
-----------------------	----------------	--------------------	------------

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TH/